



### Slope of a Line (page 1)

Linear equations have a constant slope. **Slope** is the ratio of a line's vertical change (**rise**) to its horizontal change (**run**). On the coordinate plane, you can find the slope  $m$ :

$$m = \frac{\text{rise}}{\text{run}} \text{ or } \frac{\text{difference of } y\text{-coordinates}}{\text{difference of } x\text{-coordinates}}$$

*Examples:* Find the slope of the line through the given points.

(a) (5, 4), (2, 0)

$$m = \frac{4-0}{5-2} = \frac{4}{3}$$

(b) (1, 5), (3, 1)

$$m = \frac{5-1}{1-3} = \frac{4}{-2} = -2$$

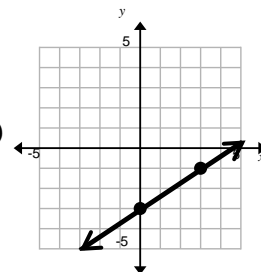
(c) (-3, 6), (4, 6)

$$m = \frac{6-6}{4-(-3)} = \frac{0}{7} = 0$$

(d) (3, -1), (3, 2)

$$m = \frac{2-(-1)}{3-3} = \frac{3}{0} \text{ undefined}$$

(e)



$$m = \frac{-1-(-3)}{3-0} = \frac{2}{3}$$



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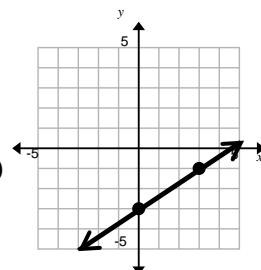
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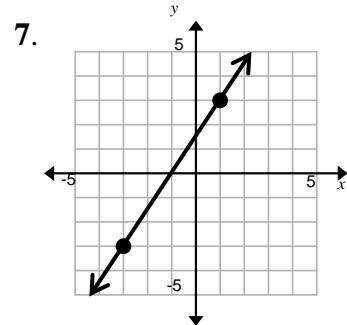
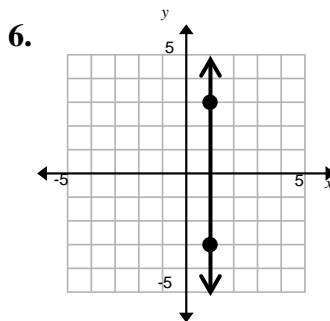
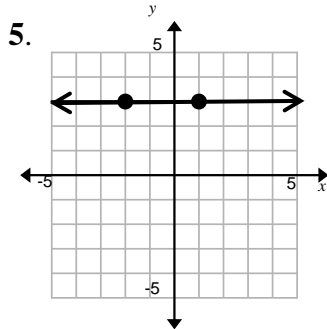


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## Slope of a Line (page 2)

For problems 1 – 7, find the slope of the line through the given points. Show your work.

1.  $(4, 1), (12, 8)$     2.  $(-1, 0), (0, -3)$     3.  $(2, -3), (-5, -3)$     4.  $(5, 7), (5, -2)$



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